

REMARKS

This paper is being submitted in response to the Office Action mailed March 15, 2004, for the above-referenced application. Applicants respectfully request consideration of the following remarks.

Applicants have amended claims 1, 21, 25 and 26 to clarify the feature that the transferable binding apparatus is adapted such that engagement of said ship mechanism with said dock mechanism is independent of boot size and binding mechanism type. Applicants respectfully submit that the amendments to the claims are fully supported by the originally-filed specification.

The rejection of claims 1, 3, 4, 11, 19, 25 and 26 under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 3,852,896 to Pyzel et al. (hereinafter "Pyzel") is hereby traversed and reconsideration is respectfully requested.

Independent claim 1 recites a transferable binding apparatus. A ship mechanism is included and a binding mechanism is affixed to the ship mechanism. A dock mechanism is adapted to attach to a ski and is adapted to receive the ship mechanism. An attaching mechanism is adapted to attach to the dock mechanism and the ship mechanism. The binding mechanism comprises a safety-release binding independently controlling engagement and disengagement of a boot into and out of the transferable binding apparatus without adjustment of the ship mechanism or the dock mechanism. Further, the transferable binding apparatus is adapted such that engagement of said ship mechanism with said dock mechanism is independent of boot size

and binding mechanism type. Claims 2-5, 7, 11, 12, and 19 depend directly or indirectly on independent claim 1.

Independent claim 25 recites a transferable binding system. A ship mechanism is included and a binding mechanism is affixed to the ship mechanism. At least two dock mechanisms are attached to at least two skis, each of the dock mechanisms being adapted to receive the ship mechanism. At least two attaching mechanisms attach the dock mechanisms to the ship mechanism. The ship mechanism is dimensioned and arranged to be inserted interchangeably into the at least two dock mechanisms. Further, the transferable binding system is adapted such that engagement of said ship mechanism with each of said at least two dock mechanisms is independent of boot size and binding mechanism type.

Independent claim 26 recites a transferable binding system. At least two ship mechanisms are included and at least two binding mechanisms are affixed to the at least two ship mechanisms. A dock mechanism is adapted to attach to a ski and to receive the ship mechanisms. An attaching mechanism is adapted to attached said dock mechanism to either of the ship mechanisms. The dock mechanism is dimensioned and arranged to receive interchangeably either of the ship mechanisms. Further, the transferable binding system is adapted such that engagement of each of said at least two ship mechanisms with said dock mechanism is independent of boot size and binding mechanism type.

The Pyzel reference discloses a safety release ski boot system comprising a ski boot having a boot upper body, a fixed upper sole, a detachable lower sole and a safety release

mechanism. The various sole and body elements of Pyzel's system are fastened together to form a single integrated boot structure. Sole fastening means associated with the lower sole and the ski comprise a plurality of transverse rails secured to the upper surface of the ski. The transverse rails are adapted to be received in a corresponding number of transverse rail-receiving slots formed in the bottom of the lower sole of the ski boot assembly. (See Abstract and col. 5, lines 5-20).

Applicants' independent claim 1 recites the features of *a transferable binding apparatus that is adapted such that engagement of said ship mechanism with said dock mechanism is independent of boot size and binding mechanism type*. Applicants' invention operates in recognition that the connection between a skier's boot and the binding is designed for ease of entry and quick release when there is adverse twisting, such as in fall. This connection is extremely important for safety and is customized to the user's boot size and shape, and the user's weight and skill level. (See page 1, lines 15-21 of the present application). However, Applicants have recognized that the connection between the binding and the ski can be utilized for purposes of facilitating transferability without affecting the important safety features of the boot and binding connection and without any dependence on the size of the boot or the binding mechanism type used by a skier. (See, for example, page 6, lines 5-6 and Figs. 1 of the present specification.)

Applicants respectfully submit that Pyzel does not teach or fairly suggest at least the above-noted features. Pyzel discloses a ski boot assembly 10 that includes a boot upper body 12 that is fixedly attached to an upper sole 13 and detachably secured to a lower sole 14. The Pyzel

system is a *self-contained ski boot* made up of a number of sole and body elements. A safety mechanism is attached to either end of the boot upper body 12. (See Fig. 1 of Pyzel). The boot body and upper sole are directly connected and fitted to the lower sole (which is indicated in the Office Action as representing a "ship mechanism"). The boot body, upper sole and lower sole all have a uniform, contiguous design, such that the size of the lower sole *is dependent on* the size of the boot body and upper sole and affects the positioning of the rail channels that slide over the plurality of rails 28 attached to the ski in only one transverse direction (which is indicated in the Office Action as representing a "dock mechanism")

Pyzel's ski boot system requires that the sole, body and rail components be fitted to one another to form the uniform and contiguous ski boot structure for a particular boot size and shape. (See, for example, Figs. 7a-7c of Pyzel.) Pyzel's boot system is NOT designed for transferability between skis regardless of boot size and binding type and, in fact, *teaches away* from this concept by the purposeful design of a self-contained boot that includes, within the boot, the components for attachment to a ski and for a safety-release mechanism and includes a latching mechanism design that is incorporated within the rail components and rail channels that receive the rail components. (See col. 5, lines 14-26 of Pyzel.)

The Office Action suggests that Pyzel's device could be constructed of any desired size and therefore teaches the above-noted features as claimed by Applicants. (See top of page 3 of the Office Action.) In fact, under Pyzel's disclosure, the ski boot must be constructed according to the particular desired size of the ski boot because Pyzel's device is a self-contained and integrated ski boot, as noted above. However, Applicants respectfully point out that construction

of Pyzel's device for a particular boot size does not teach or fairly suggest Applicants above-noted features of a transferable ski binding that is independent of boot size and binding mechanism type, meaning that the transferable binding apparatus of the present claimed invention can be utilized by any number of skiers without having to construct each apparatus according to a specific boot size.

Accordingly, in view of the above, Applicants respectfully request that this rejection be reconsidered and withdrawn.

Furthermore, concerning claims 25 and 26, the Office Action rejects these claims over col. 4, lines 17-20 of Pyzel, which states as follows: "In the interest of clarity, the safety release ski boot system of the invention will be described in connection with only one ski boot of a pair of boots and with the *corresponding* ski of a pair of skis" (emphasis added). Nothing in this disclosure arguably teaches or suggests an interchangeable transferability between a ship mechanism and at least two dock mechanisms or a dock mechanism and at least two ship mechanisms, as is claimed by Applicants. In fact, Pyzel specifically states, as noted above, that a particular boot is associated with a corresponding ski, and Pyzel further discloses that the boot body, upper sole and lower sole have an arguably uniform, contiguous design such that the lower sole "ship mechanism" is dependent on the size of the boot body and upper sole. (See, for example, Figs. 7a-7c of Pyzel.) The result is an integrated design of a self-contained ski boot that does not support a transferable ski binding system including multiple interchangeable docks and ships as is recited by claims 25 and 26. Accordingly, Applicants respectfully request that this rejection of claims 25 and 26 be reconsidered and withdrawn.

The rejection of claims 1, 2, 19, 25 and 26 under 35 U.S.C. 103(a) as being unpatentable over German Patent No. DE 298 20 426 to Ipen (hereinafter "Ipen") in view of U.S. Patent No. 3,838,866 to D'Alessio et al. (hereinafter "D'Alessio") is hereby traversed and reconsideration is respectfully requested.

The features of Applicants' independent claims 1, 25 and 26 are discussed above. Claims 2 and 19 depend on independent claim 1.

The Ipen reference discloses a ski binding plate for touring (cross-country) skiing and downhill skiing. The ski binding plate provides for the same ski to be used when cross-country skiing to a downhill slope and then downhill skiing all the while using a conventional downhill binding. Applicants have included herewith an English translation of the Ipen reference.

The D'Alessio reference discloses a safety ski binding. The Office Action cites D'Alessio as disclosing a safety release binding.

Applicants respectfully submit that neither Ipen nor D'Alessio, taken alone or in any combination, teach or fairly suggest the features of *a transferable binding apparatus that is adapted such that engagement of said ship mechanism with said dock mechanism is independent of boot size and binding mechanism type*, as is claimed by Applicants. Specifically, Ipen discloses two plates that are connected at one end by a joint such that one plate rotates with respect to the other for the purpose of using the same ski when downhill skiing as well as touring

or cross-country skiing (see page 3 of the English translation of Ipen). The rotation of the one plate with respect to the other (i.e. the engagement of the one plate indicated as a "ship mechanism" with the other plate indicated as a "dock mechanism" in the Office Action) utilizes a binding mechanism that is connected to the toe and heel of the boot and the "ship mechanism" plate that rotates upward.

Applicants respectfully submit that, in view of the above, Ipen's device would be inoperable for its intended purpose with any binding in which the heel of the boot is not *secured to* a binding mechanism (See Abstract of Ipen). Ipen's design requires that the binding mechanism include attachments for both a heel and a toe of a ski boot in order to properly function. For example, touring or cross-country ski bindings in which only a front binding is connected to a ski would be *inoperable* with Ipen's device. In fact, Ipen's device is designed so that a conventional downhill binding can be continuously utilized. Accordingly, Ipen's device depends on the binding mechanism type and therefore engagement of the "ship mechanism" plate with the "dock mechanism" plate is not independent of binding mechanism type. Applicants respectfully submit that D'Alessio does not overcome the above-noted deficiencies of the Ipen reference. Accordingly, Applicant respectfully requests that this rejection be reconsidered and withdrawn

Furthermore, concerning claims 25 and 26, Applicants respectfully submit that Ipen explicitly *teaches away* from a transferable ski binding system including multiple interchangeable docks and ships as is claimed by Applicants. The Abstract of the Ipen reference specifically states that the purpose of Ipen is such that the *same skis* can be utilized as touring

skis and downhill or carving skills. As noted above (and see Figure 4 and page 3, first full paragraph of the English translation of Ipen), Ipen accomplishes this by two plates connected at one end by a rotating mechanism 6 and attachable at the other end with a screw 7. When the screw is not attached, the plates function as a touring binding and when the plates are attached by the screw 7, the plates function as a downhill binding. Ipen's disclosure is not designed for, nor operable as, a transferable binding system including multiple interchangeable docks and ships as is claimed by Applicants in claims 25 and 26. Likewise, D'Alessio also makes no reference to a transferable ski binding system and describes a sole plate that is attached to a ski so as to be automatically released by application of sufficient force, like a binding mechanism. (See col. 1, lines 43-46 of D'Alessio.) Consequently, Ipen cannot feasibly be combined with the D'Alessio reference to produce Applicants present claimed invention having the structural features of the system as claimed by Applicants in claims 25 and 26. Accordingly, Applicants respectfully request that this rejection be reconsidered and withdrawn.

The rejection of claims 5 and 12 under 35 U.S.C. 103(a) as being unpatentable over Pyzel is hereby traversed and reconsideration is respectfully requested in view of the amendments to the claims contained herein.

The features of Applicants' independent claims are discussed above; claims 5 and 12 depend therefrom. Claim 5 recites that the dock mechanism is obtained separately from the ski and attached at the direction of the user. Claim 12 recites that the binding mechanism is attached to the ship mechanism at the direction of the user. As discussed in detail above, Applicants' respectfully submit that Pyzel does not teach or suggest at least the features of a *transferable*

binding apparatus that is adapted such that engagement of said ship mechanism with said dock mechanism is independent of boot size and binding mechanism type, as is claimed by Applicants. Accordingly, Applicants respectfully request that this rejection be reconsidered and withdrawn.

The rejection of claims 7 and 21 under 35 U.S.C. 103(a) as being unpatentable over Pyzel is hereby traversed and reconsideration is respectfully requested.

Claim 7 depends on independent claim 1, discussed above.

Independent claim 21, as amended herein, recites a method for transferring a binding. A binding mechanism is affixed to a ship mechanism. A dock mechanism is affixed to a ski. The ship mechanism is inserted into the dock mechanism and attached to the dock mechanism. The binding mechanism comprises a safety-release binding independently controlling engagement and disengagement of a boot into and out of a transferable binding apparatus without adjustment of the ship mechanism or the dock mechanism. Further, the transferable binding apparatus is adapted such engagement of the ship mechanism with the dock mechanism is independent of boot size and binding mechanism type.


As discussed in detail above, Applicants' respectfully submit that Pyzel does not teach or suggest at least the features of a *transferable binding apparatus that is adapted such that engagement of said ship mechanism with said dock mechanism is independent of boot size and binding mechanism type,* as is claimed by Applicants. Accordingly, Applicant's respectfully

request that the rejection of independent claim 21 and claim 7 be reconsidered and withdrawn.

Based on the above, Applicants respectfully request that the Examiner reconsider and withdraw all outstanding objections and rejections. Favorable consideration and allowance are earnestly solicited. Should there be any questions after reviewing this paper, the Examiner is invited to contact the undersigned at 617-248-4792.

Please charge any fees that may be required and which have not been provided for in accompanying documents or credit any overpayments to our Deposit Account No. 03-1721.

Respectfully submitted,
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(54) Title: Binding Plate for Touring Skis and Carving Skis

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BINDING PLATE FOR TOURING SKIS AND CARVING SKIS

Description

The present invention relates to a binding plate for touring skis and carving skis. This makes it possible to utilize the same skis, both as touring skis for uphill skiing and as downhill skis (carving), using the conventional downhill binding which is better suited for this purpose than the present touring ski binding.

Background Information

Generally known are downhill bindings (2), different designs of touring ski bindings, and a plate for elevating the binding for carving (4).

Problem

So far it has not been optimally possible to find a single binding and thus a single ski for multiple types of skiing, and at the same time maintaining safety and comfort.

The downhill binding (2) securely holds the ski boot (3), even at higher speeds and on bumpy terrain, but releases very easily in the event of a fall, in order to reduce the injury risk. However, this binding (2) is unsuitable for touring skis which are used for hiking and uphill skiing.

The touring ski binding is designed for this. Although all different designs of this binding have a downhill function, two disadvantages in particular, however, have to be pointed out. At higher speeds and on bumpy terrain, they do not withstand the pressure acting on the ski boot to the same degree as the downhill binding, causing the ski (1) to release easier. As a rule, however, in the event of a fall, the touring ski does not release so easily, i.e., it does not have too many release positions.

Approaches

The present invention intends to combine the advantages of the downhill binding (2) and the touring ski binding, thereby circumventing the disadvantages of one binding when it is used in a different manner.

The present invention represents a binding plate (5). This plate is composed of two parts which are connected via a joint (6). The bottom part of the plate (5) is fixedly mounted on the ski (1). The joint (6) is situated in the front in the direction of motion. The normal downhill binding (2) is attached on top of the second part of the plate. Using a screw (7), situated in the rear, the parts of the plate (5) may be fixedly connected to one another, so that in this way the ski may be used for downhill runs. One is able to move the ski boot (3), as in the case of a touring ski, if the rear screw (7) is loosened. The ski (1) is then virtually only connected to the skier's tiptoes.

Advantages, object, and details of the present invention arise from the exemplary embodiments illustrated in the drawing.

Figure 1 shows the presently known carving ski (1) which is used for downhill (but which may also be used as a touring ski). The binding (2) is the normal downhill binding (2). A plate (4) is attached between the ski (1) and the binding (2) in order to elevate the binding (2), so that the carving skier's ski boots (3) do not touch the ski slope during turns, but rather make possible that the skier may extremely lean into the turn.

Figure 2 shows the basic idea of equipping a normal ski/carving ski (1) with a two-part plate (5) which is only connected via a joint (6).

Figure 3 shows the present invention in a magnified illustration and an improved design, in which the device/screw (7) for attaching the two parts of the plate (5) for downhill action is recognizable in the rear. In addition, the upper part of the plate (5) is situated in such a way that the skier's tiptoe is located directly above the joint (6), thereby conveying the feel necessary for ski hiking.

Figure 4 shows the possible movement on the touring ski after the rear screw (7) has been loosened.

Reference Numbers

1. ski
2. downhill binding
3. ski boot
4. present binding plate for carving skis
5. invention: binding plate for touring skis and carving skis
6. joint
7. device/screw: fixing the parts of the plate for downhill action, loosening for touring

Advantages Achieved

The advantages of both a downhill binding (2) and a touring ski binding are combined, thereby largely circumventing the disadvantages of one binding when it is used in a different manner.

The downhill binding (2) is usable as hitherto, maintaining its safety standards and its stability at higher speeds and on bumpy terrain. In addition, the characteristic supports modern-day carving.

A touring ski binding in its known design is redundant, since the downhill binding (2) in combination with the present invention (5+6) makes the same movement possible as is necessary for ski hiking and uphill skiing.

What is claimed is:

A binding plate for touring skis and downhill skis/carving skis, enabling the exercise of both functions/types of skiing using a single pair of skis and a single binding, characterized in that the plate is composed of two parts which are connected via a joint, that the bottom part of the plate is fixedly mounted on the ski, that the joint is situated in the front in the direction of movement, and that the normal downhill binding is attached on top of the second part of the plate; the parts of the plate may be fixedly connected to one another via a screw, situated in the rear, in such a way that the skis may be used for downhill action as customary, and, after loosening the rear screw, the ski boot may moved as during touring and hiking, the ski being virtually only connected to the skier's tiptoes, so that as a result touring and ski hiking may be practiced using the conventional downhill binding, without suffering any performance losses during downhill action.

Figure 1 – Background Information